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ABSTRACT

An alternative to teacher dominance, inquiry-based learning permits greater choices for the student and thereby encourages initiative and responsibility. Flexible modular (flex-mod) schedules that permit student inquiry can be adapted to fit nearly any teaching situation. For example, a tenth-grade history class is divided into four groups: independent study, a writing group, a seminar group, and library users. These groups are rotated in cycles on a monthly basis; assignment due dates were varied; interest and involvement are maximized. Also, "flex-mod" permits classes to study an overall topic, while the smaller groups prepare reports on specified subthemes. Students respond with appreciation for the increased responsibility and the opportunity to use their own initiative. (JB)

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Can a Teacher Have Flexible-Modular Scheduling  
Within a Traditionally Organized School?

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Does the organization of learning activities formulate teacher and student roles? If an alternative design affords greater flexibility and variety of roles, will student achievement improve? The hypothesis in this article is that a flexible modular schedule, adapted unilaterally by the individual, can afford varied patterns of teacher and student behavior.

Findings from Classroom Interaction Analysis (CIA)

During the past ten years, Flanders and his associates have reported pertinent research:

"When classroom interaction shifts toward more consideration of pupil ideas, more pupil initiation, and more flexible behavior on the part of the teacher, the present trend of research results would suggest that the pupils will have more positive attitudes toward the teacher and the school-work, and measures of subject-matter learning adjusted for initial ability will be higher."<sup>1</sup>

In studies designed to develop instruments of observation, not evaluation, results have suggested that teachers dominate in the classroom. "While it is true that teachers talk more than all the pupils combined, from kindergarten to graduate school, the major problem appears to lie not in quantity but in quality."<sup>2</sup>

The degree of teacher dominance can be illustrated by four findings. First, in the questions posed by teachers, more than two-thirds deal with expected answers. The pattern is recitation rather than discussion. Second, only 3 to 9 per cent of teacher talk, depending on grade level,

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relates to dealing directly with student-initiated talk. Third, students reserve their limited questioning, which varies by grade level, to points of clarification of directions: "What are we supposed to do?" Fourth, in high school situations, learning cycles or themes are structured and initiated by the teacher. To summarize, the teacher role has been mainly that of leader, while the student role has been that of passive-receiver.<sup>3</sup>

In his work with CIA, Perkins developed two instruments to measure patterns of interaction among teacher and student, roles and behavior, and learning activity.<sup>4</sup> The teacher categories consist of ten items relating to behavior and five relating to roles. The roles are (1) leader-director, (2) resource person, (3) supervisor, (4) socialization agent, and (5) evaluator. The six student roles possible to observe in a CIA are participator in (1) large group discussion, (2) class recitation, (3) individual work or project, (4) seatwork, (5) small-group or committee work, and (6) oral reports.

More numerous and complex variables have been incorporated in other models of CIA.<sup>5</sup> The point is that behavior and roles can be purposefully structured in various, prescribed patterns in an attempt to reach more of the students more of the time.

#### What About Inquiry?

The variety and flexibility of teacher/student performance is receiving current emphasis among educators in social studies, language arts, science, and math. Inquiry institutes feature workshops in which case study, laboratory lesson, role play and simulation familiarize teachers with practical techniques to achieve a greater quality of student involvement.

Once the teacher realizes and practices the varied roles at his command, the learning environment will be more flexible. Silberman<sup>6</sup> states, "Because adolescents are harder to 'control' than younger children, secondary schools tend to be even more authoritarian and repressive than elementary schools; the values they transmit are the values of docility, passivity, conformity, and lack of trust."

Much of the professional literature written since the early 1960's repeats that the ideal of inquiry is to teach students to learn how to learn.<sup>7</sup> Is this value consistent with the observations of Flanders and Silberman?

If we accept the fact that we lack evidence to support one grand curriculum structured for all the students for all time, perhaps we can focus on process for a moment. Content and process can not be separated. "How" one teaches affects "what" is taught.

#### An Alternative Design

Suppose we were to consider how we can make a more flexible (and effective) learning environment within existing limitations. If we agree that learning how to learn is a value, then how the teacher organizes or groups students must be an important factor in a design.

Inquiry teaching assumes that students are involved in (1) initiating problem areas to investigate; (2) seeking alternative answers and structures; (3) collecting and tabulating data; and (4) reporting conclusions and suggesting new, related problems for further investigation.

Without "opening" the classroom or school,<sup>8</sup> the individual teacher can implement selected concepts of flexible-modular scheduling on a unilateral basis.<sup>9</sup>

The following chart-calendar\* illustrates the idea of flexible grouping and incorporates the inquiry approach. The teacher can divide his or her class in three or four groups, depending on the size of the class, the student's interests and abilities, unit theme being studied, library facilities, and availability of resources.

Several student teachers have adapted this plan to their specific situations and have reported increased student participation, enthusiasm, and responsibility. A bonus result is that student teachers feel more secure with rotating small groups. Less teacher domination is required in large group sessions because students share in the interaction of ideas.

This "Flex-mod" organization emphasizes the concept of interdependence resulting from a division of labor by specialized groups. Because each group is studying a different facet of a major problem, they must share ideas. And because the inquiry is guided but not dictated, students feel encouraged to seek alternatives and practice decision-making.

Individualized instruction can be part of this approach. Groups working independently or in the library can have specifically assigned learning packages and proceed at their own pace. The seminar group (SG) is the one with which the teacher spends about sixty per cent of each designated class period. The other groups are largely student-led and need only about forty per cent of the teacher's direction or attention.

\*This particular model was used in a tenth grade world history class. Similar models, adapted for their students' needs, have been used throughout local junior and senior high schools.

Flexible-modular organization within a traditionally organized school:

| IS - works on report individually.<br>SG - works on report in group with T<br>G - writes affective or policy issue<br>L - works in Library | Tuesday, April 4<br>Introduce unit<br><u>Full class-simulation</u><br>tion | Wednesday, April 5<br>Organize class into small groups; select sub-themes for individual reports. | Thursday, April 6<br>First cycle<br>Group 1 - Library<br>2 - G<br>3 - SG<br>4 - IS | Friday, April 7<br>Group 2 - Library<br>3 - G<br>4 - G<br>1 - IS |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Monday, April 10<br>Group 3 - Library<br>4 - G<br>1 - SG<br>2 - IS                                                                         | April 11<br>Group 4 - Library<br>1 - G<br>2 - SG<br>3 - IS                 | April 12<br>Full Class - panel-led case study by Group 1                                          | April 13<br>Second Cycle<br>Group 1 - Library<br>2 - G<br>3 - SG<br>4 - IS         | April 14<br>Group 2 - Library<br>3 - G<br>4 - SG<br>1 - IS       |
| April 17<br>Group 3 - Library<br>4 - G<br>1 - SG<br>2 - IS                                                                                 | April 18<br>Group 4 - Library<br>1 - G<br>2 - SG<br>3 - IS                 | April 19<br>Full class - panel-led laboratory study by Group II                                   | April 20<br>Third Cycle<br>Group 1 - Library<br>2 - G<br>3 - SG<br>4 - IS          | April 21<br>Group 2 - Library<br>3 - G<br>4 - SG<br>1 - IS       |
| April 24<br>Group 3 - Library<br>4 - G<br>1 - SG<br>2 - IS                                                                                 | April 25<br>Group 4 - Library<br>1 - G<br>2 - SG<br>3 - IS                 | April 26<br>Full Class - panel-led simulation by Group III                                        | April 27<br>Fourth Cycle<br>Group 1 - Library<br>2 - G<br>3 - SG<br>4 - IS         | April 28<br>Group 2 - Library<br>3 - G<br>4 - SG<br>1 - IS       |

I - Independent Study  
G - Writing Group  
SG - Seminar Group  
L - Library

|                      |              |
|----------------------|--------------|
| Group 1 - 7 students | Group 1 - 10 |
| " 2 - "              | 2 - "        |
| " 3 - "              | 3 - "        |
| " 4 - "              | 3 - "        |
| 28 in class          | 30 students  |

Hints: -Rotate assignments & due dates for maximum interest & involvement;  
do not schedule five student panels at the end of the unit.  
-Select themes for small groups as organizing points for discussion & to interrelate individual reports.

The "danger" of students sharing work can be eliminated if we change our attitudes. If students prefer to work together, why not? You can eventually determine the degree to which your students are learning as individuals by various means of evaluation. If students are genuinely learning in groups, enjoy the rewards of your design.

Note that each group gets a turn at leading a cycle. Let us assume that the unit-problem is, "How do nation states act in the absence of a supra-national government which controls disputes?" Then each group can lead an illustrative example or concept as a sub-theme. Our classes have studied the Korean Conflict, the Suez Crisis and Hungarian Revolution of 1957. All of the students read general, background information on the United Nations, for example. Each group can read more specifically and in greater detail on its respective sub-theme.

Rather than having the usual boring and/or repetitive student-panel presentations at the end of a unit, here we have cycles. At the end of each week, a group leads a cycle in inquiry-based strategies. In this way the whole class volunteers data relating to particular themes. The teacher role is varied and includes all five possibilities suggested by Perkins. In short, the students' roles are both flexible and varied.

In attempting this pattern of organization, two factors are especially crucial. First, the teacher must select the unit-theme and design it to be inquiry-oriented. A closed generalization can work, relating to Jacksonian Democracy, for example. However, sub-

themes or problems must provide a basis for group research and inter-relatedness of ideas. Ideally and eventually, students will inquire independently and select their own areas of investigation. Realistically, in the beginning, the teacher will "guide" the inquiry, and as students gain maturity, his or her guiding role will be diminished. Second, the problem of grouping students requires careful thought.

Our students studied their own grouping as a part of their study of the concept, interdependence. The class first studied the United Nations, European Common Market, SEATO, and NATO. Grouping was partially designed to help students experience the dynamics--and frustrations--of interdependence. At the conclusion of the unit, we discussed these questions:

1. What drew you together as a co-operative group? (Students selected sub-themes they wanted to study and were grouped accordingly.)
2. What procedure did your group follow in completing assignments? (Some elected chairmen, shared tasks, divided work fairly; others reported disadvantages in working with groups.)
3. How have you personally felt about working in groups? Varying degrees of freedom, responsibility, and co-operation were reported.
4. What did you learn about yourself from this experience? (Happily, most students empathized with nation states which sacrifice part of their sovereignty because of mutual dependence and thereby saw a parallel.)

Yes, a teacher can have the benefits of "flex-mod" scheduling, and this organization can be a refreshing change. For the teacher looking for variations in roles, behavior, or teaching patterns, an increased student involvement and enthusiasm may result. Students report appreciation for the gradual increase in independent study and group work. More important, they demonstrate responsibility and initiative. These benefits may make the experiment well worthwhile.

# Footnotes

1

Ned A. Flanders, Analyzing Teaching Behavior (Reading, Massachusetts: Addison-Wesley Publishing Company, 1970) pp. 13-14.

2

Ibid.

3

Ibid.

4

Hugh V. Perkins, "A Procedure for Assessing the Classroom Behavior of Students and Teachers," American Educational Research Journal, I, No. 4 (November 1964), 249-60.

5

For examples of various CIA's and research results, see Edmund J. Amidon and John B. Hough, Interaction Analysis: Theory, Research and Application (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967).

6

Charles E. Silberman, Crisis in the Classroom (New York: Vintage/Random House, 1970) p. 324.

7

Harry F. Harlow, "The Formation of Learning Sets," Psychological Review, January, 1949, pp. 51-65; see also Harry F. Harlow, "Learning Sets and Error Factor Theory," in Sigmund Koch, Ed., Psychology: A Study of a Science, (New York: McGraw-Hill, 1959), p. 502.

8

See an interesting report on The Philadelphia Parkway Program: John Bremer and Micael von Moschzisker, The School Without Walls (New York: Holt, Rinehart and Winston, Inc., 1971).

9

For an early treatment of the flexible-modular curriculum, see J. Lloyd Trump, Images of the Future, National Association of Secondary School Principals, National Education Association, 1961.